

Title (en)  
Power steering apparatus.

Title (de)  
Hilfskraftlenkung.

Title (fr)  
Direction assistée.

Publication  
**EP 0460406 A2 19911211 (EN)**

Application  
**EP 91107209 A 19910503**

Priority  
• JP 12034390 A 19900509  
• JP 12034490 A 19900509

Abstract (en)  
of a motor (8) for assisting steering force wherein noting the fact that the steering torque when the steering wheel is being returned is within the dead zone, whether the steering wheel is being returned is judged on the basis of the steering torque (T) detected by a torque sensor (6) and the terminal voltage (Vm) of the motor, and the direction and magnitude of a driving current for the motor when the steering wheel is being returned are determined corresponding to the vehicle speed (V). Accordingly, the steering wheel is returned to the neutral position without using a steering angle sensor. A power steering apparatus to drive a motor for assisting steering force without any time delay by adjusting a temporary control value obtained corresponding to the detected signal of a torque sensor with a differentiated value of the detected signal wherein the effective detection width of the steering torque to obtain the differentiated value is wider than the effective detection width of the steering torque to obtain the temporary control value. <IMAGE>

IPC 1-7  
**B62D 5/04**

IPC 8 full level  
**B62D 5/04** (2006.01)

CPC (source: EP US)  
**B62D 5/0466** (2013.01 - EP US)

Cited by  
FR2712552A1; DE4342451A1; DE4342451C2; FR2717763A1; US6141494A; US5835872A; EP0788965A3; US5714187A; CN113492906A; GB2285023A; US5460235A; GB2285023B; FR2701916A1; EP0522466A1; US5469357A

Designated contracting state (EPC)  
DE FR GB

DOCDB simple family (publication)  
**EP 0460406 A2 19911211; EP 0460406 A3 19920401; EP 0460406 B1 19940316**; DE 69101398 D1 19940421; DE 69101398 T2 19941020; DE 69117194 D1 19960328; DE 69117194 T2 19961010; EP 0566168 A2 19931020; EP 0566168 A3 19931118; EP 0566168 B1 19960214; US 5201818 A 19930413

DOCDB simple family (application)  
**EP 91107209 A 19910503**; DE 69101398 T 19910503; DE 69117194 T 19910503; EP 93110440 A 19910503; US 68610791 A 19910416